



Combustion processes produce dioxins via surface mediated reactions. The mechanism is unknown. Each step in this proposed pathway is amenable to investigation using X-ray spectroscopy.

Exciting new results demonstrating that known dioxin precursors (e.g. chlorophenols) react on fly-ash surfaces via 1 e^- transfer processes. This spectrum is a demonstration that X-ray spectroscopy can be used to obtain fundamental, *in situ* data on key pollutant formation processes.

